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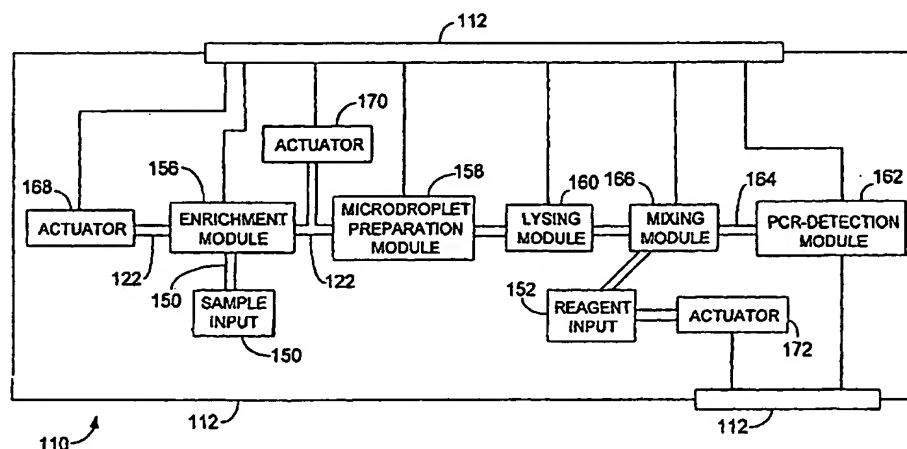
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[Continued on next page]

(54) Title: **SYSTEM AND METHOD FOR ELECTROCHEMICAL DETECTION OF BIOLOGICAL COMPOUNDS**



(57) Abstract: The present invention relates to an electrochemical method for detecting a target polynucleotide. An electrode comprising an electrode surface is provided. The electrode surface includes at least one probe molecule reversibly immobilized with respect to the electrode surface. A first electrochemical signal indicative of an amount of probe molecule immobilized with respect to the electrode surface is obtained. The electrode surface is contacted with a liquid comprising the target polynucleotide. Upon the contacting step, at least some of the probe molecule immobilized with respect to the electrode surface dissociates therefrom. A second electrochemical signal indicative of an amount of probe molecule immobilized with respect to the electrode surface is obtained. The presence of the target polynucleotide is determined at least partially on the basis of the first and second electrochemical signals.

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TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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A. CLASSIFICATION OF SUBJECT MATTER

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US CL : 205/777.5

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 205/777.5

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE-LOS-SANTOSALVAREZ et al. ("New scheme for electrochemical detection of DNA based on electrocatalytic oxidation of NADH," Electrochemistry Communications (March 2003), 5(3), 267-271).	54-56
X	CHO et al. ("Fabrication of a Multi-Electrode array DNA Sensor for Electrochemical Genotyping," Journal of the Korean Physical Society, vol. 41, No. 6, december 2002, pp. 1054-1057).	54-57, 61, 62, 64, 65
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Y		58, 63

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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Date of the actual completion of the international search

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Continuation of B. FIELDS SEARCHED Item 3:

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